



# Leon County Sustainable Communities Summit **2012**

October 31, 2012

## Transitioning to the Sustainable Global Economy

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**Author, Ethical Markets: Growing the Green Economy**

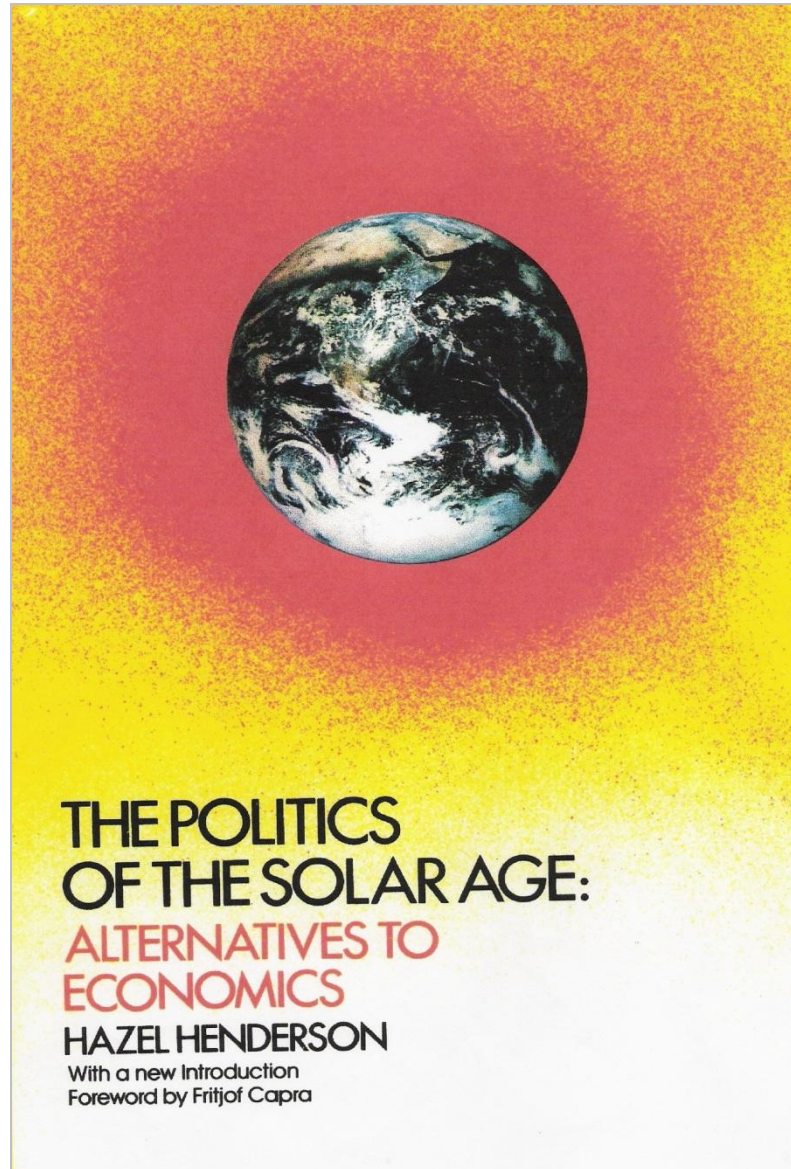
[Ethicalmarkets.com](http://Ethicalmarkets.com)  
[Ethicalmarkets.tv](http://Ethicalmarkets.tv)  
[Mercadoetico.com.br](http://Mercadoetico.com.br)  
[Calvert-Henderson.com](http://Calvert-Henderson.com)





# A Planetary Whole-System Shift

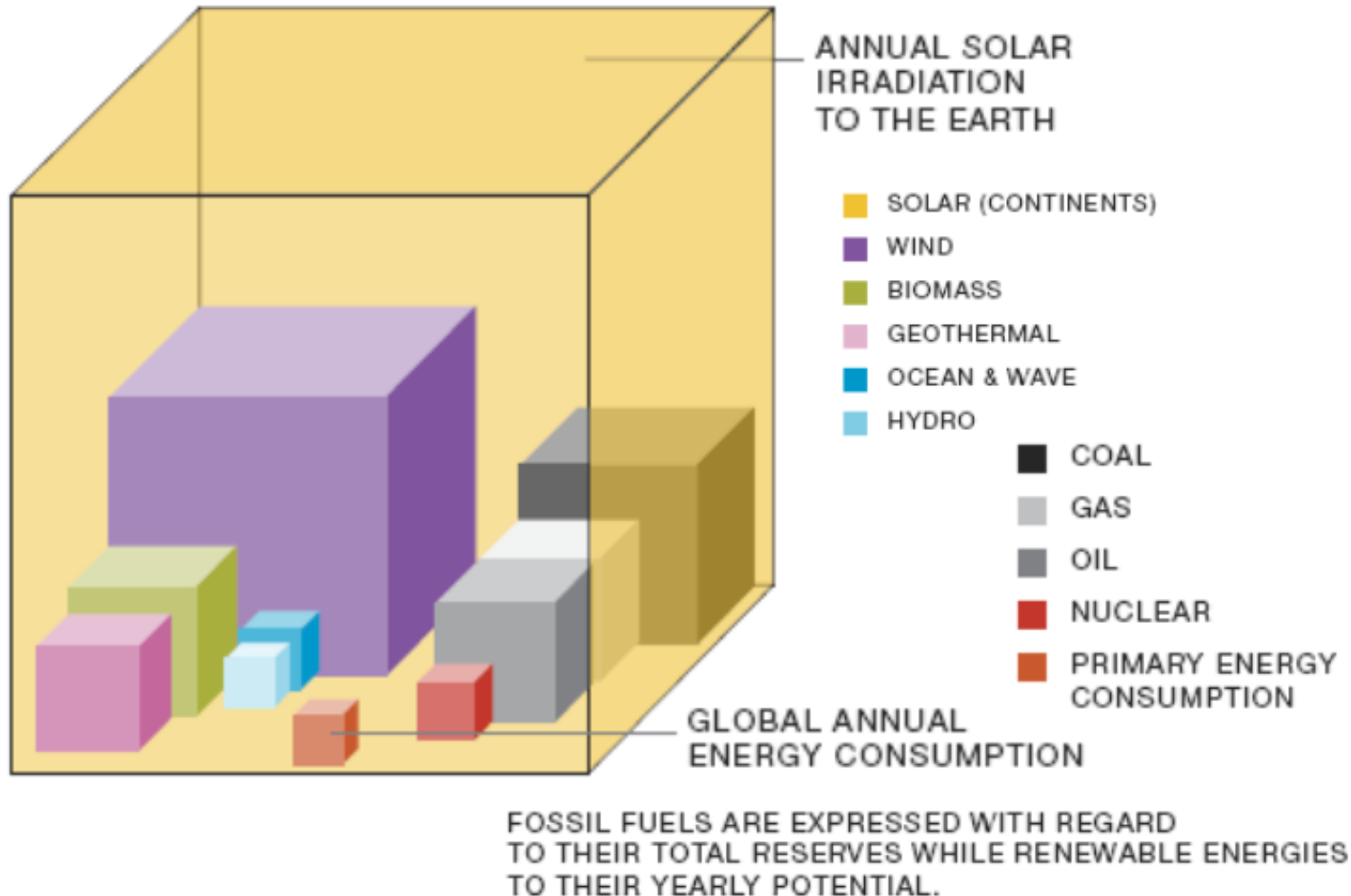
- Is underway and accelerating
- Due to increasing interconnection
- Crises of global financialization
- Money-printing bubbles
- Impacts of global industrial model
- Resource depletion
- Expansion of scientific knowledge
- Rise of human awareness
- Information-sharing by citizens across boundaries
- **Breakdowns driving breakthroughs!**



Forward by **Fritjof Capra**

Describes the great transition  
of societies from the fossil-  
fueled Industrial era to the  
information-rich Solar Age

Doubleday Anchor Press, 1981  
Knowledge Systems, Inc. 1988



*Solar irradiation versus established global energy resources*  
"Solar Generation 6," EPIA 2011



# The Re-Design Revolution from scarcity to abundance

- Everyone can contribute
- New governance – participatory democracies
- Public banking and money supply
- New currencies, time banking, credit unions
- Crowdfunding, local economies
- Money is information
- Sharing peer2peer "wikinomics"
- Wealth of networks
- Joining Love Economies
- Eco-designed product - Biomimicry





\$3.6 trillion in private sector investments in growing the green economy worldwide

**Renewable Energy**  
**Green Building and Efficiency**  
**Smart Grid**  
**Clean Tech**  
**Corporate R&D**

August 2012 findings at  
[www.ethicalmarkets.com](http://www.ethicalmarkets.com)

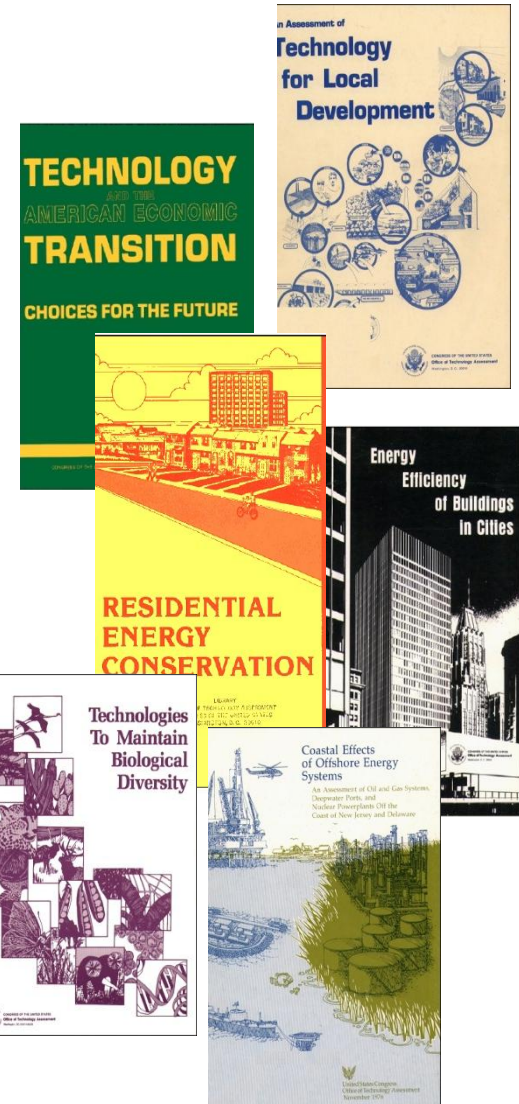
excludes: nuclear, coal,  
CCS, ag-biofuels

Independent, multi-media company (USA and Brazil) -- reforming markets, metrics and growing the green economy globally

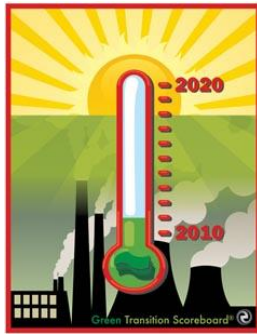


# US Office of Technology Assessment Reports (1970s-1980s)

- **Coastal Effects of Offshore Energy Systems (1976)**
  - Residential Energy Conservation (1979)
  - Assessment of Technologies for Local Development (1981)
- Energy Efficiency of Buildings in Cities (1982)
- Assessing Biological Diversity in the USA (1986)
- Technologies to Maintain Biological Diversity (1987)
- Technology and the American Economy in Transition (1988)



**OTA was shut down in 1996 – archives available:  
US Government Printing Office, Princeton  
University and Ethical Markets Library**



# Why \$10 trillion by 2020?

Accelerating and ramping up scale of renewable/sustainable technologies/products to reduce price below fossil fuels

- See for example Climate Solutions 2 model
- solar already cheaper than nuclear

[www.greentransitionscoreboard.com](http://www.greentransitionscoreboard.com)

***Growing the Green Economy*** TV show  
on PBS stations and on [www.ethicalmarkets.tv](http://www.ethicalmarkets.tv)







# The Transforming Finance Initiative

**Join over 80 world-class expert signers!**

**[www.transformingfinance.net](http://www.transformingfinance.net)**

- statement by Ethical Markets, the Capital Institute, University of Notre Dame and Networking Action
- As market participants and beneficiaries, the group took responsibility to promote fundamental restructuring and reform.
- Finance is part of the Global Commons as recognized since Bretton Woods in 1945.

**Transforming Finance TV Series available for colleges and libraries  
at [www.films.com](http://www.films.com)**





# Moving to Correct GDPs

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- ICONS, Curitiba 2003
- DevInfo-Orbis Indicadores de Sustentabilidade
- Sustainability Compendium, Anne Louette, Instituto Ethos, Sao Paulo
- Canadian Index of Wellbeing
- European Parliament "Beyond GDP," 2007
- EUROSTAT, March 2011
- UK Wellbeing Statistics
- WWF Living Planet Index
- MDG Dashboard
- OECD Better Life Index, launched 2011
- Ethical Markets-Globescan Beyond GDP Surveys
- Brasil Watch
- IWI UN University – UNEP, 2012



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# CALVERT-HENDERSON

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## QUALITY OF LIFE INDICATORS

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A NEW TOOL FOR ASSESSING NATIONAL TRENDS

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# NEW SCIENCE INVALIDATING ECONOMICS

## Endogenous

- Psychology: Kahneman and Tversky, Thinking Fast and Slow, 2011
  - Theory-induced blindness
  - Confirmation bias
- Endocrinology: hormones driving human behavior
  - testosterone    • oxytocin    • cortisol
- Brain Science: forebrain v. amygdala
- Behavioral research
  - Beyond the Prisoners' Dilemma (Zak)
  - Evolution of cooperation (Axelrod, 1984)
- Biology
  - Charles Darwin, The Descent of Man
  - Biomimicry: Life's Principles (Benyus, 1997)
  - David Loye, [www.theDarwinProject.com](http://www.theDarwinProject.com)





# NEW SCIENCE INVALIDATING ECONOMICS

## Exogenous

- Quantum mechanics, Non-local Universe, Bell's Theorem; Bohm, Peat, Nadeau, Capra (Henderson, 1981)
  - Economics is based on Newtonian physics (now a special case)
  - We humans are all interconnected (*DNA USA*, Sykes, 2012)
- Thermodynamics Second Law
  - Energy on this planet moves from low-entropy order to disorder
  - Daily input of Sun's photons supports biosphere.
- Non-linear mathematics
  - Chaos models, dissipative structures, complexity theory; Georgescu-Roegen, Frederick Soddy (Henderson, 1981)
  - Morphogenesis, catastrophe topology; Prigoiné, Thom, Jantsch

**All invalidate traditional equilibrium models on which macroeconomic models are based.**

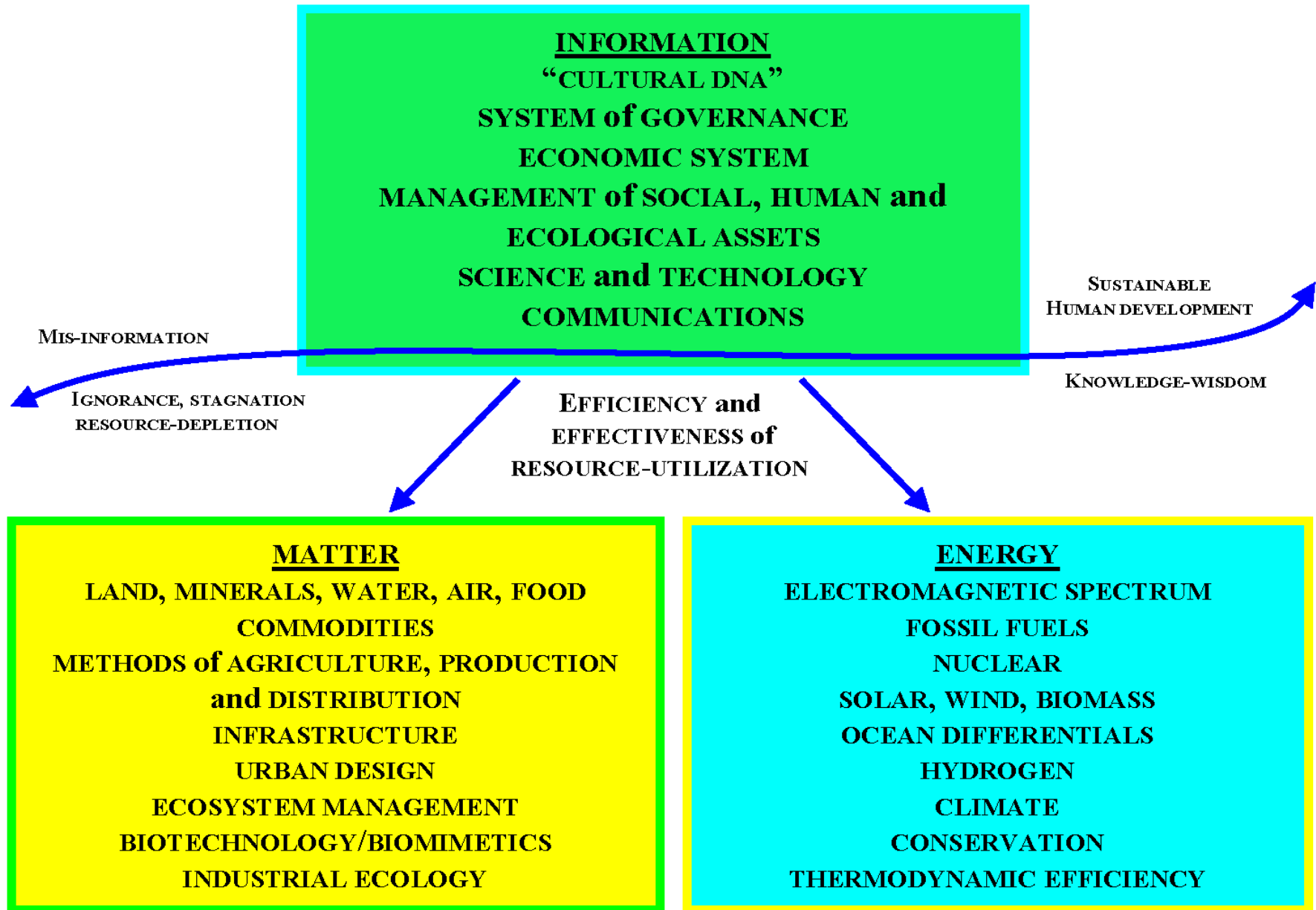
**For example, compound interest is a mathematical illusion.  
(Henderson, 1981)**



# Lag in Updating Portfolio Analysis Models

- traditional "efficient markets," "rational actors," risk metrics (VaR)
- "herd behavior" seeking alpha!
- obsolete asset-allocation models
- obsolete curricula in business schools (economics, finance)
- agent-principal conflicts of interest (LSE)
- asset owners and trustees intimidated by portfolio managers, consultants
- green investing blockages:
  - subsidies to fossil fuels, nuclear, ethanol (90% vs. renewables)
  - perverse policies, UN, Kyoto, carbon trading
    - see "From Rigged Carbon Markets to Green Investing," Hazel Henderson June 2011

# 3 MODES OF RESOURCE-USE IN NATIONAL DEVELOPMENT





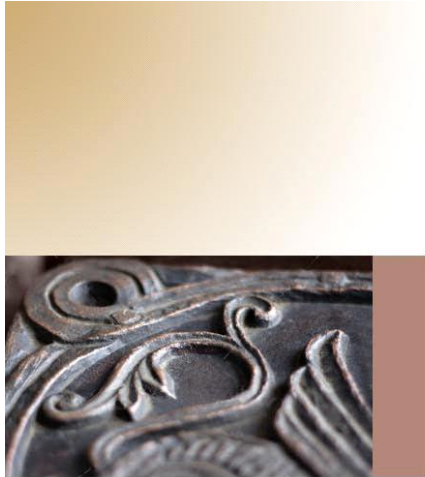
# Developing Countries "**Leapfrog**"

- \* Fewer stranded assets
- \* Infrastructure innovation
- \* Energy - efficiency





# Beyond GDP Surveys with Globescan



## **International Public Opinion on Measuring National Progress: 2010**

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Project: G3088, GlobeScan®







# Reforming Markets!



Presented annually at SRI  
Conference by:

**Ethical Markets Media**

**The World Business Academy**

**University of Notre Dame**

**more information at [www.worldbusiness.org](http://www.worldbusiness.org)**



# *Thank You!*



Chelsea Green 2006

Now the win-win approach for:

- \* the economy \* jobs
  - \* the environment \* society
  - \* climate prosperity
- 

Other Henderson books available in:

- Portuguese \* Chinese \* French
- \* German \* Italian \* Japanese
- \* Korean \* Spanish